

@]j Y!GhfY]h`]a `F H@!A cf[Yba U[Un]b. 7]j]Y``c gh]W\Y`h`[Y[Yb Dc W\Yf

FH@AcXYfUhcf]b'JUbYggU'7]j]Y``c'gW\`À[h'`]jY'[Y[Yb'C`]jYfDcW\Yf'Uig'ibX'gcf[h'ZØf'5iZgY\Yb'VY]'Dib_h'* 'Ua''\$"

*\frac{1}{3}"

± XYf'K Y`h'XYg': YfbgY\Ybg'gcf[h'b]W\h'bi f'X]Y'I bhYf\U`hi b[ž gcbXYfb'Ui W\'X]Y'nk]gW\Yba YbgW\`]W\Y'±bhYfU_h]cb'ZØf
GW\`U[nY]`Yb"'9]b'U_hi Y``Yf'J cfZU```]a 'F H@A cf[Yba U[Un]b' Di b_h
* '\Uh'b]W\h'bi f'X]Y'Ni gW\Ui Yf'ØVYffUgW\hž'gcbXYfb'Ui W\'X]Y
8]g_i gg]cb'ØVYf'X]Y'6YXYi hi b['j cb'9a ch]cbYb'i bX
dgmW\c`c[]gW\Yf'I bhYfghØhni b['ZØf'A ÀbbYf'Ub[Yghc»Yb"

9fY][b]g]a FH@Acf[YbaU[Un]b Dib_h*

5a 8]YbghU[žXYa "\$"*\infty] \&\$&(\tilde{z}_Ua Yb'X]Y'Ni gW\Ui Yf'j cb
Di b_h'* "]b'XYb'; Ybi gg'Y]bYf'_cbhfcj YfgYb'@]j Y!8]g_i gg]cb"
A cXYfUhcf]b'J UbYggU'7]j]Y``cž'VY_Ubbh'ZØf']\fY'X]fY_hY'5fhž'bU\a
g]W\'7ca YX]Ub'C`]j Yf'DcW\Yf'ni f'6fi gh"'\dag]hhYb'XYf'GYbXi b[
Ài \(\tilde{Y}\)fhY'g]Y'Y]bYb'?ca a YbhUfž'XYf'ZØf'5i ZfY[i b['i bX'; Y`\AW\hYf
gcf[hY.'\ 8 Ug'dUgg]Yfhž'k Ybb'A \(\tilde{A}\)bYf'b]W\\h'ni f'H\\YfUd]Y'[Y\\Yb"

la[Ub[a]hXYa H\Ya U GWXY]Xi b[

8 Yf 5 b`Ugg ZØf 7]j]Y``cg ?ca a YbhUf k Uf Dc W Yfg _ Øfn`]W Y GW Y]Xi b['j cb 'gY]bYf : fUi '5a]fU Dc W Yfž X]Y 'Ua '&- "'\$\] \[\&\&(\c ZZ]n]Y```VY_Ubbh k i fXY" 5 bg W `]Y \(\text{Y} b X k Uf Dc W Yf VY] Y]bYa \[\text{Ua a ghY}b!? cbnYfh]b'; Y`gYb_]f W Yb' [YgY\Yb' k cf XYbž k Ug' j cb XYa 'Gc W]Yhm! 9I dYfh Yb' GYV Ugh]Ub'?`]a d_Y'U`g' g W ÒbYf \[\text{SVgWX} `i ggž i a 'X Ug' 9 b XY 'X Yf' 9\Y 'ni 'ZY]Yfb '_ca a Ybh]Yfh k i f XY" \[8]YgY '5 fh XYf' 6 Yf] W hYfgh Uhhi b ['`Yb_h X]Y'5 i Za Yf_g Ua _ Y]h'Ui Z'X]Y

Ya ch]cbU`Yb < YfUi gZcfXYfi b[Ybža]h`XYbYb j]Y`Y A YbgWXYb bUWX Y]bYf HfYbbi b['_cbZfcbh]Yfh'g]bX"

8]YFYU_h]cbYbXYfNigWXUiYf

8]Y'6Ya Yf_i b[Yb'j cb'J UbYggU'7]j]Y``c'\UVYb']a '\dan\bYfbYh'Z\Of 5i ZgY\Yb'[Ygcf[h"5i Z']\fYa '\dan\b_\dan\b'\b'] \bYfg]Y'Y]bYb 5i ZgW\b]hh'Ui g'XYf'GYbXi b['i bX'Yf\]Y`h'\ØVYfk \aan\b][YbXY | bhYfgh\Omegahni b['j cb']\fYb': c``ck Yfb"'J]Y`Y'?ca a YbhUhcfYb'`cVhYb]\fY'5i ggU[Y'U`g'a i h]['i bX'b\Oh]["'8Yf'U``[Ya Y]bY'\dan\bcf']\fYf : Ubg'g\W\Y]bh'XYb'5i Zfi Zini f'5i gY]bUbXYfgYhni b['a]h dg\w\\]g\W\Yb'\dan\b'\b'\an\b'\b'\an\b'\b']b'\XYf'\aan\bb\`]\W_Y]h'ni 'i bhYfgh\Omegah\nyb''

K]W\h][$_{Y}$]h'XYf'8]g_i gg]cb'\ØVYf'dgm\\]g\\ Y ; Ygi bX\Y]h

8]Y'cZZYbY'H\Ya Uh]g]Yfi b['j cb'dgmW\]gW\Yb'5gdY_hYb']b'6Yni [
Ui Z'HfYbbi b[Yb'Vf]b[h'Y]b'k]W\h][Yg'[YgY``gW\UZh`]W\Yg'H\Ya U'Ub
X]Y'CVYfZÀW\Y''K À\fYbX']b'XYf'JYf[Ub[Yb\Y]h'cZh'Yfk UfhYh
k i fXYž'XUgg'A ÀbbYf']\fY'9a ch]cbYb'ni fØW_\U`hYbž'nY][h'X]YgYf
J cfZU``ž'XUgg'XYf'8]U`c['ØVYf'dgmW\]gW\Y'; Ygi bX\Y]h
YbhgW\Y]XYbX']gh''9g'k]fX'ni bY\a YbX'UbYf_Ubbhž'XUgg'Ui W\
A ÀbbYf'j cb'H\YfUd]Y'i bX'Ya ch]cbU`Yf'I bhYfghØhni b['dfcZ]h]YfYb
ObbYb''

: Un]h'i bX'5i gV`]W_

8]Y'9d]gcXY']b' Di b_h'* 'j YfXYi h`]W\hž'k]Y'ghUf_'A YX]Yb'i bX

ÒZZYbh`]W\Y'8]g_i gg]cbYb'9]bZi gg'Ui Z'[YgY``gW\UZh`]W\Y'Bcfa Yb
i bX'XUg'JYfgh\AbXb]g'j cb'dgmW\]gW\Yb'H\Ya Yb'\UVYb'_\ObbYb''
A]h'Y]bYf'AcXYfUhcf]b'k]Y'JUbYggU'7]j]Y``cž'X]Y'_Y]bY'GW\Yi \Uhž
i bVYei YaY'KU\f\Y]hYb'Ui gni gdfYW\Ybž'_\ObbhY'Y]b'`Ub[Zf]gh][Yf
KUbXY``]b'XYf'KU\fbY\aib['jcb'A\Abb`]W_Y]h'i bX'Yach]cbU`Ya
Kc\`VYZ]bXYb']b'XYf'; YgY``gW\UZh'[YZ\OfXYfh'kYfXYb''

6Ygi WXYb G]Y i bg Ui Z b!U["XY